Fasting Men and Women.
See page 24.

HEALTH

A WEEKLY JOURNAL OF

DOMESTIC AND SANITARY SCIENCE.

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EDITED BY DR. ANDREW WILSON, F.R.S.E. &C.

VOL. XIII.—No. 314. FRIDAY, APRIL 12, 1889. [PRICE TWOPENCE.

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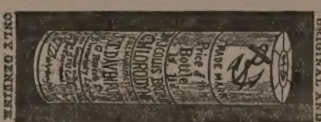

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◆ HEALTH ◆

EDITED BY

DR. ANDREW WILSON, F.R.S.E., &c.

LONDON: *FRIDAY, APRIL* 12, 1889.

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Notes by the Way

By the Editor.

"Health is the foundation of all our physical happiness."—*Herder.*

Dr. D. A. Sargent, in the course of an article on the physical development of women, says that, in order to ascertain the influence of tight clothing upon the action of the heart during exercise, a dozen young women consented last summer to run 540 yards in their loose gymnasium garments, and then to run the same distance with corsets on. The running time was two minutes and thirty seconds for each person at each trial, and, in order that there should be no heart-excitement or depression following the first test, the second trial was made the following day. Before beginning the running, the average heart impulse was 84 beats to the minute; after running the above-named distance, the heart-impulse was 152 beats to the minute; the average natural waist-girth being twenty-five inches. The next day, corsets were worn during the exercise, and the average girth of waist was reduced to twenty-four inches. The same distance was run in the same time by all, and immediately afterward the average heart-impulse was found to be 168 beats per minute. "When I state," says Dr. Sargent, "that I should feel myself justified in advising an athlete not to enter a running or rowing race whose heart-impulse was 160 beats per minute after a little exercise, even though there were not the slightest evidence of disease, one can form some idea of the wear and tear of this important organ, and the physiological loss entailed upon the system in women who force it to labour for over half their lives under such a disadvantage as the tight corset imposes. This is a new proof of the injury which even moderately tight corsets may produce; as such, it should be laid to heart by my lady-readers.

✣ ✣ ✣

I note that investigations have been recently carried out in St. Petersburg by Dr. S. L. Rappoport on the effects of sleep on the secretion of the gastric juice. They tend to show that the digestive functions of the gastric juice are materially affected by sleep. The experiments were made on the human subject, the gastric juice being withdrawn by means of a flexible india-rubber œsophagus sound, the introduction of which is said not to have caused any inconvenience to the subjects of the research. The quantity of the gastric juice secreted during sleep was shown to be very much less than that secreted during waking hours; the chloride of sodium, as well as the hydrochloric acid, were diminished; but the secretion of pepsine did not seem to be much affected. By means of experiments conducted in the laboratory, it was found that the digestive power of gastric juice secreted during sleep was lower than that secreted during waking hours, the difference apparently depending mainly upon the lack of hydrochloric acid. With regard to the rennet ferment, Dr. Rappoport was unable to demonstrate any alteration in its secretion during sleep.

✣ ✣ ✣

Dr. Russell, of Glasgow, in speaking of the health-requirements of a dairy farm summarizes these points as follows:—1. A farmhouse ought to be wholesome in structure, and the steading well supplied with pure water, drained with vitrified pipes, and with privy accommodation for both sexes. 2. The house ought to stand apart from the premises used for diary purposes. A distinct domestic washing-house is indispensable. The milk-house ought to open into the free air, and be at a distance from the dung-pit. The dung-pit ought to have retaining walls, an impervious bottom, and a light roof borne on pillars. 3. The byre ought to be well lighted, ventilated, and paved, and regularly cleaned. 4. No person who suffers from infectious or any recent indefinite illness, or who has been in any way in communication with an infected person or thing, should engage in the milk business. 5. The milk of no animal which seems to be ill, or which has any sore about udder or teats,

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ought to be sold for human consumption. 6. The udders and teats, if soiled, ought to be washed before milking. Soap, warm water, and towels ought to be at hand, and every milker ought to wash his hands before beginning. 7. Healthy cattle, healthy servants, cleanliness in every detail of the business of the dairy farm, mean money to the producer and retailer of the milk.

✣ ✣ ✣

The death of a coloured woman was registered at Baltimore on September 4th, 1888. This woman, it is said, weighed 850 pounds. If the figures are correct, the deceased was, in a physical sense, the largest woman in the world, if not the largest that ever lived. Even the famous Daniel Lambert only reached the comparatively ordinary weight of 730 pounds. We have no record of any man exceeding the supreme obesity of the Baltimore woman, with one exception. In the year 1798 the State of North Carolina became the birthplace of Mr. Miles Darden, who, in the course of years, reached the height of seven feet six inches, and the weight of over 1,000 pounds. North Carolina, says a correspondent, has shown pride in her agricultural and political resources, but she has never done historical justice to her greatest man—physically speaking.

✣ ✣ ✣

I note that a considerable scare has been caused of late by a medical officer of health, who brought before a Cheshire Local Board the case of a man residing in a house where there were three cases of scarlet fever, who had borrowed a volume from the free library. He observed scarlet fever was the one disease of all others most capable of being spread by outside objects, such as books. Mr. Thomas Greenwood, the author of *Free Public Libraries*, writes to one of the London daily papers to say that the cases of transmission of infectious diseases by means of books from free libraries are extremely rare. He further states that whatever danger there may be in this direction may be easily provided against, so that the occurrence of disease being conveyed shall be made impossible. The sanitary inspector, he suggests, should regularly furnish the librarian with a list of all houses in which such diseases exist. A circular could then at once be sent to any reader resident there forbidding books to be returned until the house is reported free of disease. When the books are returned, they could be disinfected in an apparatus constructed for that purpose.

✣ ✣ ✣

I observe that Dr. Simon Baruch has introduced into the Manhattan General Hospital of New York the German method of treating typhoid fever patients with cold-water baths, with the most successful results. This treatment has been adopted in several French hospitals, and a physician in a Lyons hospital states that of 1,211 cases treated by him there were but 12 deaths, or less than 1 per cent. The leading feature of this method is the immersion of the patient in moderately cold water every three hours, provided his temperature is above 102·2 degs. Fahr. The water is kept at a temperature of between 60 and 70 degs., and the patient remains in the bath fifteen minutes, unless he is taken with a chill, when he is at once removed. Colder water is poured upon his head, and he is given a glass of diluted wine. He is rubbed briskly and put to bed. This treatment is continued every three hours—day and night. It must begin at an early stage; if a week or more has been allowed to elapse before the cold-water method is begun the case is hopeless.

Original Essays

"Life is not to live, but to be well."—*Martial.*

FRUITS AS FOODS.

By M.D.

In Health, No. 312, we discussed the part which vegetables are calculated to play as valuable foods when judiciously used by man. The subject of fruits as foods is one naturally akin to that of common vegetables, inasmuch as from this department of the plant world, so to speak, we certainly derive many important additions to our list of dietetic articles.

It may be well to note that the term "fruit," in a strictly botanical sense, is applied to the ripe *pistil* or seed-vessel of plants. A pea, an apple, a peach, and a gooseberry may be quoted as examples of fruits which are not only botanically to be regarded as such, but which, from a popular point of view, are equally important as edibles. But in the case of other fruits, popularly so-called, the botanical view of things would leave out of account altogether the eatable parts. Thus, the strawberry is valued for the soft, fleshy part, which is merely the enlarged and succulent end of the flower-stalk; while the true fruit (of the botanist) consists of the little seed-like bodies—they are really "carpels," or parts of the pistil, each containing a seed—scattered upon and embedded in the soft, fleshy mass. A fig, also, is really a hollowed flower-stalk containing flowers in its interior; while an apple or pear, on the other hand, represents a real fruit, in that its substance is the largely developed matter of the seed-vessel itself.

But from our present standpoint we may regard as "fruits" all edible parts of plants commonly so-called, and for the most part associated with the seed-producing organs. It is impossible, however, to draw a strict line between fruits and vegetables. A cucumber, for example, is a fruit, as also is vegetable marrow; while the tomato similarly takes rank botanically as a true fruit. It is to the apples, pears, prunes, dates, oranges, lemons, berries, and like fruits, however, that we must turn on the present occasion by way of discussing their food-values. Among these plant-products we shall find many products well worthy the attention of those who study their diet in relation to health.

The chemistry of fruits, and more especially of the changes through which the small, hard, green fruit passes to become the ripe, succulent apple, pear, orange, or berry, first of all deserves a word of mention. The meaning of the green hue of young fruit is precisely the same as the meaning of the green colour of the leaf. Wherever we see the green colouring matter (or *chlorophyll*) of plants, we may credit it with a very important work in the building up of the tissues of the plant. For, in the presence of light, the green parts of plants are enabled to absorb carbonic acid gas (CO_2) from the atmosphere, to decompose it into its two elements, carbon (C) and oxygen (O), to retain the carbon as part and parcel of plant food, and, finally, to return the oxygen to the atmosphere. This action is going on during the day. It ceases at night; light being an essential condition for the chemical action just noted. Out of the carbon thus obtained, plants manufacture in part the starches, sugars, and other products they contain. Indeed, we may look upon every green cell of a plant as a starch manufactory,

wherein this product is made from the plant's food. After it is made, this starch may be converted into sugar, and may pass through the plant to be stored up in the roots and elsewhere; the sugar in such a case being re-converted into starch.

Now, as a fruit ripens, we see the green colour gradually disappear. Its place is in due time taken by the russet and golden tints of the autumn. Along with these changes in the fruit—which has meanwhile been growing and enlarging as a result of its storage of elaborated food-elements—a remarkable alteration takes place in its living actions. In place of absorbing carbonic acid gas, as we have seen, and of giving out oxygen to the air, the ripening fruit reverses this action. It becomes like an animal in its way, and absorbs oxygen, while it exhales or gives off carbonic acid gas, thus imitating the process which takes place in our own lungs.

Other changes occur contemporaneously with those just noted. Green fruits contain large quantities of vegetable acids and also of tannin, which render them sour and bitter to taste. The oxidation of these acids mellows the fruit, and in part explains what we mean by its ripening. Then succeeds what is perhaps the most important change of all. Starch, we have seen, is made in large quantity by the cells in the green and early stages of the fruit's development; and starch, as we have also noted, is a product closely related to, and easily changed into sugar. Such a process occurs, by the way, in our mouths, when the ferment of the saliva changes the starch of our food into grape-sugar. In course of time, then, the fruit has modified its store of starch into sugar, while the *pectose* of the early fruit has likewise become changed into *pectin*, which is the basis of all vegetable jellies.

Through such changes the fruit becomes soft, sweet, and succulent, and agreeable to eat. If, however, it is allowed to over-ripen, further changes ensue. The amount of acid remaining which gives to many fruits their pleasant tartness, along with the sugar, is oxidized and altered in composition, so that the fruit becomes sapid and tasteless; and these changes herald the process of decay, which liberates the seeds and fulfils the true destiny of the fruit as a seed-producer, and as a means of continuing the plant-species.

Such, briefly described, are the changes which fruits undergo in ripening. As a result of these changes, mankind is presented with a number of products serviceable for food. Fruits which are very succulent and melt easily in the mouth contain a relatively large amount of water and of soluble matters. In such fruits as the peach and apricot there is not a large amount of sugar present, while the acids are developed somewhat largely; the acid taste being marked by the gum and pectin and other matters these fruits contain. In sour fruits, on the other hand, the acids come to the front, and are not disguised by the gums and sugars. We note in this relation the great influence which cultivation exerts on fruits in repressing the acids and favouring the growth of the sugary constituents.

Bearing in mind the fact that "nitrogenous" matter represents flesh-forming and tissue-building food, while starch, sugar, and fat represent force-producing or energy-producing foods, we may note what the analysis of common fruits teaches us regarding their food-values, and later on deal with other qualities which fruits as foods may be found to possess.

The following is an analysis of the apple and pear respectively, made by Fresenius:—

		Apple.		Pear.
Soluble matters.	Sugar	7·58	.....	7·000
	Free acid	1·04	.....	0·074
	Nitrogenous matter	0·22	.....	0·260
	Pectous substances	2·72	.....	3·281
	Minerals	0·44	.....	0·285
Insoluble matters.	Seeds	0·38	.....	0·390
	Skins, &c.	1·42	.....	3·420
	Pectose	1·16	.....	1·340
	Minerals (from Insolubles included in weights given)	[0·03]	.....	[0·050]
	Water	85·04	.....	83·950
		100·00		100·000

The above analyses show that apples and pears contain a very large percentage of water, while the quantity of nitrogenous matter is too small to admit of their being regarded as flesh-formers in any sense. The sugar and pectous matters are, however, present in proportion sufficient to constitute these fruits fairly nutritious articles in an "energy-producing" sense. We shall note presently, however, that, in addition to the purely food-values of these and other fruits, they possess dietetic properties which entitle them to be regarded with interest from a health standpoint.

Of the orange and lemon much the same opinion may be expressed, save that the pulp is much more digestible (especially in the case of the orange) than is the pulp of the apple or pear. Its acidity is highly grateful to the palate. The lime stands dietetically in an important relation to the cure of scurvy, from the amount of citric acid it contains; but this usage of the lime belongs more properly to the sphere of medicine than to that of dietetics.

Plums are regarded as fruits which are apt, when eaten uncooked especially, to cause digestive disturbance. The common yellow plum, with its constituents calculated in precisely the same order as were those of the apple and pear, shows by analysis the following amounts: —3·584; 0·582: 0·197; 5·772; 0·570; 5·780; 0·179; 1·080; [0·082]; 82·256 = 100·000. Of cherries much the same opinion may be expressed as has been noted in the case of plums: they contain a large amount of sugar, but appear singularly apt to derange digestion.

Peaches contain a very small amount of sugar when compared with other fruits, and of the apricot the same remark holds good. Very different is the date, which, in its fleshy part, contains as much as 58 per cent. of sugar, and forms, perhaps, one of the most nutritious of fruits, viewed purely as a food.

As regards grapes, the analysis of Fresenius shows us about 80 per cent. of water, with sugar at nearly 14 per cent.; but the amount of sugar varies greatly in different varieties. The skins and seeds are indigestible parts; the pulp, eaten freely, exerts, according to Pavy, a laxative action, and also stimulates the functions of the kidneys somewhat. The minerals of grapes are characteristic, consisting as they do of bitartrate of potash, tartrate of lime, and other matters.

In gooseberries we find about 8 per cent. of sugar, over 1 per cent. of free acid, and 85 per cent. of water. The malic acid and citric acid in this fruit, along with the sugar it contains, give it its characteristics, and render it both pleasant and agreeable. Strawberries contain about 87 per cent. of water, and over 7 per cent. of sugar; while in raspberries the percentages are about 86 and 4 respectively. The fig contains, like the date, much sugar; while the tamarind is notable for the many acids it contains, along with sugar, making it an admirable basis for a cooling drink, and giving to it laxative properties as well.

Plantains and bananas stand on a somewhat different platform from most other fruits, in that they contain nitrogenous matter (nearly 5 per cent.) with a large amount (nearly 20 per cent.) of sugar. Hence these fruits must be reckoned as being true foods.

Turning finally to the consideration of fruits at large as articles of dietetic value, it may be said that, apart from the actual amount of nourishment they contain—not a large amount by any means, and consisting chiefly of small quantities of sugar, starch, &c.—fruits discharge important functions as aids and addenda to our diet-tables. Thus, like cabbage, they supply us with many important minerals, and exert anti-scorbutic faculties; and in this way are adapted to prevent the injurious effects of a too exclusively salt regimen, such as sailors experience. Preserved fruits are extremely valuable when thus regarded.

Medicinally, fruits act by diminishing the acidity of the urine, on account of the alkaline minerals they contain; and in gouty persons a free allowance of fruit is therefore most advantageous. "The utility of such fruits (cherries, strawberries, apples, &c.) in the uric acid diathesis" (or gouty temperament), says Dr. Milner Fothergill, "is apparent and obvious. If gouty persons would learn to eat fruit, and teach their children to follow the example set, it would save much resort to medicine in later days that might well be avoided."

Finally, in cases where a tendency to constipation and torpid digestive action exists, the value of fruit cannot be over-estimated. If persons of such a habit of body would try the plan of eating fruit to breakfast in place of taking the time-honoured but (for them) absurd meal of tea or coffee, bacon and egg, and so forth, and of adding cooked fruit to dinner as a "sweet," we should hear less of the digestive troubles which render many lives miserable. This, indeed, seems to me a dietetic use of fruit which excels in value all its other virtues. The substitution of fruits—apples, oranges, prunes, and so forth—for much of the food usually eaten by persons suffering from digestive torpor, would work a wonderful and gratifying change in respect of their health, and save much useless and pernicious drugging by aperients, which only increase the mischief they are erroneously supposed and trusted to cure.

FOOTBALL AT NIGHT.—Evening matches, illuminated by the "Well's Light," have been exceedingly popular this season, and are strong evidence of the hold which football has taken on the public. Most people are disengaged in the evening, and this fact, combined with the novelty of the experience and the satisfactory nature of the entertainment, accounts for the large gates which have always accompanied these exhibitions. Evening matches have been played at Glasgow, Sunderland, Nottingham, Lincoln, Halifax, Manchester (on which occasion over £100 was handed to the Hyde Disaster Fund), St. Helens, Redruth, Rotherham, and other places, and have all proved immensely attractive to the public and profitable to the clubs concerned. Messrs. A. C. Wells & Co., of Midland-road, St. Pancras, London, are the proprietors of the light.

CHEMICAL ANALYSIS.—DR. DRINKWATER, Lecturer on Chemistry in the Edinburgh Medical School, undertakes the Analysis of Water, Foods, Wall-Papers, and of all other products and articles connected with Household Health and Commercial Interests. Terms on application to Dr. Drinkwater, Chemical Laboratory, 41, Chambers-street, Edinburgh.

Personal Health

"Be timely wise;
With health all taste of pleasure flies."—*Gay.*

MALARIAL TROUBLES.

IT is not every one who has a proper conception of what malaria means and really is. Malaria really means bad air, but for some reason, difficult to define, it has been restricted to the emanations from swampy districts. For example, a man who has fever and ague, or, as it is known among professional men, intermittent fever, is said to be suffering from malaria; whereas a man suffering from the noisome effects of sewer-gas in his house is assuredly the victim of malaria, though not suffering from intermittent fever. The fevers then, and the ailments following in their wake, that are produced in districts where there are warmth and decaying vegetable matter, are said to be malarial.

Malaria is a hydra-headed disease. Even that one form of it, "fever and ague," presents itself in various forms. It occurs most frequently in newly-populated districts; and in lands from which it has been supposed to have vanished it has been reproduced when their soil was turned. A man who has suffered once may suffer again, after a score of years, by simply running down in health. It may appear first as a chill, followed by intense fever, which, in its train, is followed by a sweating stage. It may appear simply as an intense neuralgia, and it may be noted that the most frequent form of malarial neuralgia appears over the brow, and is known as "brow ague." As if there was some similarity, distant no doubt, between paludal fevers and sewer-gas poisoning, it may be noted that neuralgic symptoms characterize both, and quinine certainly seems beneficial to both.

Formerly, quinine, and indeed all the chinchona preparations, were more appreciated than they are at present. In the whole range of medical treatment nothing ever is encountered which is more wonderful than the action of quinine in malarial fevers. With its administration, the diseases disappear, and that quickly. No doubt the dwellers in old countries and the residents of old towns would derive great benefit from a far freer use of quinine, and here we should take occasion to point out that the ordinary sulphate of quinine, the form usually used, is objectionable; it irritates the stomach, is quite insoluble, and is frequently not all absorbed.

The soluble Quinine Tabloids are the best preparation, inasmuch as one of them dissolves in a little water the minute it touches it. They do not irritate the stomach, can be taken without the taste being perceived, and none of the drug is lost in the system. Those suffering from enervated health, whether from sewer-gas, or marsh emanations, overwork, worry, sleeplessness, or any of the thousand ills that go hand in hand with civilization, will find quinine useful—more useful as a tonic than any of the myriad drugs that glut the market.

Under ordinary circumstances a two-grain Tabloid is sufficient. In malarial troubles as much as twenty grains should be taken in a day.

THE SANITARY INSTITUTE.—The next Congress and Exhibition of this Institute will be held in Worcester at the end of September. Arrangements are in progress, and will be published shortly.

ABOUT PSORIASIS.

There is a story told of a young physician who was an assistant to an old one, and who, after very carefully examining an eruption on the face of a patient, turned to his principal and enquired, "What is that?" "Skin-disease, you blockhead," answered the old man. This is a fair sample of how much many an old physician, and, perhaps, young one, too, knows about affections of the skin.

Skin-eruptions are of the most varied type, and to suppose for a moment that they all belong to one family is a very great mistake; or, to suppose that they are mostly due to a disordered state of the blood is alike an error, for in many cases they are not. A skin-disease of considerable frequency is that known as *psoriasis*, which usually appears upon the outside of the limbs, often has a red surface, and always slight shiny scales, which may be scratched off. It frequently appears in the form of rings or wheels, and in the same form upon both sides of the body. It generally occurs among those who are in excellent health; and is often found in families where epilepsy, cancer, and other kindred affections have occurred.

As a rule, psoriasis causes little or no itching; nevertheless, it occasions a most unsightly appearance. We have known it to last for more than a score of years. It differs from eczema in that it is dry, while the latter is usually moist and weeps; eczema also causes intolerable itching, but in the later stages may also dry up and form scales, though they will not be *silvery*, like the scales in psoriasis. What will cure psoriasis? This is a very practical question indeed, and one in which everybody afflicted with this disease must have a vital interest. Chrysophanic acid has cleared up the patches of psoriasis where the disease has lasted for very many years; the application of the remedy, however, requires considerable care, or the result will not be curative. A much safer remedy than chrysophanic acid for psoriasis (and one which is almost a specific in eczema), is Vinolia.

If the assiduous application of Vinolia does not cure the disease, thirty grains of Chrysarobin to each half-ounce of the Vinolia cream will do the work. A fact that psoriasis appears in the same locality upon corresponding parts of the body would indicate that it is a disease due to some nervous perversion; and upon this line of reasoning, arsenic has been given, with very good success. It is well to begin, under a physician's direction, with two-drop doses of Fowler's Solution in a wine-glass of water three times a day, after meals, gradually increasing the dose up to five drops.

DIFFERENCES IN MEN AND THEIR CAUSES.

It is a commonplace observation that prizefighters and great athletes are generally deficient in intellectual and emotional power: the entire force is devoted to the physical development, leaving a minimum for the other portions of their nature. In the ancient sculptured forms of Hercules this truth is symbolically represented. It will be observed that his head is always fashioned in abnormally small proportion to the physical development—thus pictorially expressing the fact that larger growth of the material form through which force is manifested is obtained at the expense of the diminished channel for its exercise in the higher modes of being. Why, generally, are hard readers and great thinkers dyspeptic and of weak physique? Simply because the greater proportion of the vital energy is attacted to the intellectual region, while the digestive processes and the other processes of physical growth are too scantily supplied with the stimulus needful for their healthy and vigorous action.

It is very often the case, too, that highly intellectual men are deficient in the emotions—pity and tenderness, for example; for the high development of their mental nature is obtained by depriving the emotional nature of its due supply of nervous force. The glory of the one is attended by the decay of the other, and the man is incomplete, abnormal. A heightened excellence in any quality of heart or head must, except in very rare specimens of our race, be bought by the sacrifice of the full development of other faculties. Complete development seems to be impossible in all directions; and our nature, instead of exhibiting a noble symmetry, is disfigured, so to speak, by depressions and projections of unequal size. How often do we find that very professedly religious persons, whose religion, unhappily, chiefly consists in a sustenance and display of emotions, are comparatively unintellectual; the stronger exhibition of emotional activity being secured by the comparative suppression of energy in the department of mind.

Take again the case of a person who has lost a faculty; for example, that of sight. The result is that the other sense-organs or the intellect, or emotional nature, according to the *set* of the man's nature, or all of them together, possess a higher degree of sensibility and power; and the reason is supplied by our hypothesis. The total force of the man would be distributed among the various bodily organs and departments of his being, in proportions determined by the peculiarity of his nature; the annihilation of one channel for the operation of force leaves so much more force to be allotted to the remaining channels, and hence a larger degree of activity or acuteness is exhibited through them. If the man is naturally highly intellectual, the intellect takes the larger share of the liberated energy. If his nature be pre-eminently emotional, he exhibits a wider or intenser emotional range; if his physical organs, however, predominate over other departments in their normal activity, it is they that secure the surplus force and receive thereby a greater power. And according to the sense that is lost, so will be the amount of force that is released, and the consequent extent of addition to the vigour of manifestation in the remaining departments of the man's nature.

The eye is the most intellectual of our organs, and has the largest share in the accumulation of the images that constitute our knowledge: thus the eye, among our bodily organs, has assigned to its use a larger fund of force than any of the other organs; hence if the eye be destroyed, more force would be liberated than by the destruction of any other sense; and hence the man who lost his eyesight might be expected to show a larger addition of activity and power in the predominating regions of his nature than he whose loss had been his hearing, and much more than he who had simply been deprived of the inferior sense of smell or taste.—*T. E. Young, B.A., in "The Gentleman's Magazine."*

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The Family Circle

"The child is father of the man."—*Wordsworth.*
"In bringing up a child, think of its old age."—*Joubert.*

PHYSICAL TRAINING OF YOUNG CHILDREN.

By M. Fernan Lagrange.

It would be a great mistake to apply, in the physical training of children, the same principles as those by which gymnastics for adults are adapted. And as we recognize different grades in the intellectual teaching of children, corresponding with their different ages, so the exercises prescribed for them should vary, to correspond with the different degrees of their bodily development. The child's gymnastics should be quite distinct from that which is considered best suited to mature age. It should not look to utility, but should serve an exclusively hygienic end. The first object should be to give good carriage, to aid the pupils in reaching a full maximum of growth, and see that they are developed regularly, without deformity and without blemishes. All these conditions are within the domain of hygiene. A second feature of the exercise adapted to children regards the cerebral conditions which result from their being at school. They require diversion from the mental work that is put upon them, and such diversion can be obtained only by giving them the pleasure of recreation.

Hence, we have the two essential features that should be secured in infant gymnastics,—the hygienic and the recreative.

The usual school gymnastics lack much of being irreproachable from the hygienic point of view. Some of the methods seem to have been chosen rather because they were convenient of application than on account of any hygienic value. They are not adapted so much to the requirements of the child as to the accommodations of the school premises. Methods have been sought by which they could be applied in narrow spaces, and considerable muscular effort called out in a very short time. It may be convenient to collect a class of children once or twice a week and make them perform vigorous movements, but it is hardly what their hygiene demands. To measure out approximately the amount of exercise that ought to be taken in a week and administer it all at once is no more valid than it would be to give food for several days at a single meal. The child's exercise should be as carefully allotted to him as his food, and excessive fatigue as sedulously avoided as indigestion. A system of giving gymnastic exercises at too long intervals involves the dilemma that too great exertion may be called out at each lesson, or, if the labour is moderated, too little will be done. The child does not want intense effort at rare intervals, but moderate exercises frequently repeated.

The fact that intense muscular effort interferes with the development of the growing infant in height is perhaps less well known to hygienists and physicians than to veterinary surgeons and trainers. It has long been observed that young horses which are put to work too early never become as large as their fellow-colts which are allowed to reach their full growth in the pasture. Gymnastic apparatus, with the efforts which they necessitate, would have on the child the same dwarfing influence as harnessing to the waggon or the plough upon the colt. The infant prodigies of the circus sufficiently exemplify this fact. With all the skill they display, they seldom exhibit well-grown, evenly-developed forms, but are usually in some way distorted; and persons who have begun hard work on farms or as labourers too early in life are generally stunted. Besides being unevenly distributed in time, these exercises are badly localized as to the different parts of the body. All exercises with fixed apparatus,—the trapeze, the stationary bar, rings, parallel bars, slack rope, &c.,—throw the work wholly upon the upper part of the body, leaving the muscles of the pelvis and lower limbs comparatively inactive. This is not so much matter with city men, who have to walk a great deal; but it is a very important consideration with children at school, who spend most of their time sitting on benches.

In children muscular effort should be generalized, so as to make as great a number of muscles as possible participate in it, or at least to distribute it judiciously among the stronger muscles. When each group of muscles shares in the exercise according to its strength, the labour is less fatiguing, and we are able to obtain the general benefit of exercise,—which is the communication of the highest activity of the circulation and respiration, without incurring the harmful results which are forms of fatigue. This benefit is more conveniently obtained through exercise of the legs than of the arms, because they are stronger and can bear more work without fatigue. In such exercises, of which running is the type, not only the legs, but the pelvis, the vertebral column, the shoulders, and the arms all participate. Exercises in which the work is localized, however much they may contribute to the development of the active part in the adult, do not have that effect in children, the volume of whose muscles is never increased by them. They are consequently useless, while they promote fatigue. They are liable to the further objection that they tend to produce deformities in young children subjected to them, whose plastic frames at their tender age yield very readily to any stress which is put on them, and acquire a permanent set if it is repeated too often. Partisans of gymnastics plead, in answer to this objection, that their system may be and is used to correct bodily deformities; but the plea really strengthens the argument against the system, for the same structure that yields to a corrective application of gymnastic exercise will yield as readily to a distorting one. It is only when the frame has become mature and firmly set that such exercises can be applied without danger and to advantage; and that they are then useful when rightly applied cannot be gainsaid.

These objections do not lie against floor exercises, or light gymnastics, which are not performed with fixed apparatus. In these the child bends, stretches, and shifts his arms, legs, head, and body in various directions, at the command of the teacher, in measured rhythm. These motions are hygienically irreproachable. They do not exact any very intense muscular effort, or vicious attitude of the body, or abnormal use of the limbs. But even when performed in concert they are not recreations, and this is an extremely important matter with pupils whose brains are working to excess. They become exceedingly monotonous, and the child begins to perform them reluctantly, or learns to partly evade them. Although he can hardly escape going through the visible motion, he can easily avoid the muscular effort, without which it is ineffective. The evasion may, it is true, be corrected by strict vigilance on the part of the teacher; but what becomes then of the distraction, of the mental relaxation which the pupil ought to find in his physical training? To compel one to the performance of the motions is no way to make him love his exercise. In this way the pupil finds in them, not a recreation, but a lesson additional to the others,—a new burden. Now,

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A Skilful Surgical Operation.

THE American Ambassador at Vienna, Mr. Kasson, has lately forwarded to his Government an interesting account of a remarkable surgical operation lately performed by Professor Billroth, of Vienna, which, wonderful to tell, consisted in the removal of a portion of the human stomach, involving nearly one-third of the organ, and, strange to say, the patient recovered; the only successful operation of the kind ever performed. The disease for which this operation was performed was cancer of the stomach, attended with the following symptoms:—The appetite is quite poor. There is a peculiar distress in the stomach, a feeling that has been described as a faint "all-gone" sensation; a sticky slime collects about the teeth, especially in the morning, accompanied by an unpleasant taste. Food fails to satisfy this peculiar faint sensation; but, on the contrary, it appears to aggravate the feeling. The eyes are sunken, tinged with yellow; the hands and feet become cold and sticky—a cold perspiration. The sufferer feels tired all the time, and sleep does not seem to give rest. After a time the patient becomes nervous, irritable, and gloomy, his mind filled with evil forebodings. When rising suddenly from a recumbent position there is a dizziness, a whirling sensation, and he is obliged to grasp something firm to keep from falling. The bowels costive, the skin dry and hot at times; the blood becomes thick and stagnant, and does not circulate properly. After a time the patient spits up food soon after eating, sometimes in a sour and fermented condition, sometimes sweetish to the taste. Oftentimes there is palpitation of the heart, and the patient fears he may have heart disease. Towards the last the patient is unable to retain any food whatever, as the opening in the intestines becomes closed, or nearly so. Although this disease is indeed alarming, sufferers with the above-named symptoms should not feel nervous, for nine hundred and ninety-nine cases out of a thousand have no cancer, but simply dyspepsia—a disease easily removed if treated in a proper manner. The safest and best remedy for the disease is Mother Seigel's Curative Syrup, a vegetable preparation, sold by all Chemists and Medicine Vendors throughout the world, and by the Proprietors, A. J. White (Limited), 35, Farringdon-road, London, E.C. Price 2s. 6d. per bottle. This Syrup strikes at the very foundation of the disease, and drives it, root and branch, out of the system.

recreation is not only a moral want of the child, but it is an important physical need, in so far as it furnishes a remedy for the nervous weakness and irritability that are induced by constant constraint, and helps to prevent disturbance of the equilibrium of the vital functions. Both of the gymnastic systems of physical education, therefore, lack the important essentials of being hygienic and recreative.

The prime fault of both these kinds of gymnastic exercise is that they are artificial. They were introduced for the praiseworthy purpose of supplying the want of natural exercise where that could not be obtained; but they have gone beyond this, and the notion has arisen that a child cannot take proper exercise without going through an apprenticeship and being subjected to a method: the more complicated the method, and the more difficult the apprenticeship, the better the results that are anticipated. The elaborate gymnastics, which many regard as a kind of perfection of natural exercise, is, from the hygienic point of view, nothing but a makeshift when we can get no better means, but a poor substitute for the spontaneous gymnastics to which every child is naturally inclined. This instinctive exercise would amply suffice for the development of the body if the instinct was listened to every time it speaks, but social and studious conditions do not permit this. The instinctive desire, repressed too often, becomes weakened, and finally disappears. The body accommodates itself to a sedentary life, and the insufficiency of exercise finally induces muscular indolence and an inert habit. The teacher of gymnastics would not be needed if the pupil had the privilege every day, for a sufficient time, of a large space, and liberty to amuse himself in it.

(To be concluded.)

Typhoid Statistics.—Professor Ruata, of Perugia, is authority for the statement that there are annually in Italy nearly 300,000 cases of typhoid-fever, of which number 27,000 prove fatal. One-third of the persons in Italy who reach the age of forty-five have the fever, and in some districts more than three per cent. of the population dies from this one cause.

A new remedy for constipation is proposed by Dr. G. E. Jeafferson. This is "table exercise." Let the patient stand upright, with the back to a firm table the height of the buttocks, and, keeping quite straight, incline backwards slowly till the trunk and head rest on the table; then, keeping quite straight, raise the trunk till the feet touch the ground, and repeat this motion three times. This exercise may be repeated once or twice during the day.

J. Burns Gibson, Esq., M.A., M.D., writes to Spratt's Patent Limited:—"5, Greenhill Villas, Harlesden, London, November 27th, 1888.—I have had ample and many opportunities of testing the value for bodily health and vigour of your Whole Meal Biscuits. For children, I find an almost perfect farinaceous food, containing all the elements of bone, brain, and muscle nourishment. They may be sometimes steeped and soaked with advantage in milk or water; but, eaten as they are sold, they have a very special utility, as teaching and encouraging that most indispensable habit of patient and perfect mastication and insalivation. To adults of constipated habit of body, their use is beyond doubt. This has been proved in my experience. In overcoming the evil habit of 'bolting' food, so common a cause of dyspepsia amongst busy city men and others, they furnish the material of an adequate discipline; while, used by ladies and people of sedentary habits,—say, two or three daily,—I find they obviate the need to have recourse to 'physic.'"—Of all dealers, per tin about 7 lbs., 2s. 9d.; per tin about 14 lbs., 5s. 3d.; or of Spratt's Patent Limited, London, S.E.—[Advt.]

Healthy Houses

"A happy home must be a healthy home."—*Anon.*

BOILERS IN OFFICE AND RESIDENCE BUILDINGS.

The horrible disaster at Hartford, by which a prominent hotel was levelled to the ground and more than twenty lives lost, appears from press despatches to be due to the explosion of the boiler in the basement of the building, and since boilers are now placed in nearly every large building in the United States, the question of the risks run by the occupants naturally suggests itself to every one. No hotel of any magnitude, and almost none of our large buildings, are without boilers, and in the generality of cases, the pressures carried vary from sixty to ninety pounds per square inch.

For warming purposes alone, such high pressures are not required; but where electric-light plants are to be operated, and generally where elevators are to be run, high pressures are almost a necessity. The question, therefore, naturally arises as to the risk that is taken, not only in our hotels, but in every one of our high office and business buildings and apartment-houses that have boilers.

It is true that the actual percentage of explosions within such buildings is small, compared to the whole number of buildings that contain boilers; nevertheless, the community is startled every now and then by the explosion of a boiler and loss of life in buildings not used for manufacturing purposes.

The unsuspecting pedestrian walking the streets of New York is walking over charged mines. It is, probably, not an exaggeration to say that every fourth building on one of its large public thoroughfares has a boiler either directly under the sidewalk or just inside the building. The necessities of business and the lack of suitable space often makes it practically impossible to do otherwise than place these boilers in such a position; and, though, when thus placed, they may, indeed, be a menace to the public at large, and to the occupants of the buildings, yet, on the other hand, the boilers are a necessity, and the question naturally arises as to what can be done to make them safe.

Municipal inspection of boilers, as it is ordinarily carried out, is a mere farce, even where it exists. The inspection of the boiler insurance companies is more thorough, and affords more security; but no inspection will make a boiler safe against over-pressure.

In the present instance, it is reported that the engineer was in the habit of banking his fires before midnight, and leaving the boiler to take care of itself until morning. The pressure presumably advanced slowly, and the safety valve gave no warning until a dangerously high pressure had been reached, under which the boiler gave way, knocking out the piers of the building and bringing the whole fabric down upon its sleeping occupants. Nor would inspection and strong boilers make such a catastrophe any less disastrous; they might, indeed, make it less probable, but the stronger the boiler, the more disastrous the explosion would be when it did occur, since it would be accompanied by the liberation of water and steam at a higher temperature and pressure than would be the case with a weaker boiler.

We do not wish to assail the ordinary shell boiler, particularly the horizontal multitubular variety. They

are cheap to produce; they will last, under proper care, longer than any other boilers we know of, and, in point of efficiency as steam-makers they are second to none. All boilers holding much water are, however, magazines of stored energy, and require only to be neglected or mismanaged to produce a result similar to that at Hartford. We know of our own knowledge a great banking house in New York wherein a new boiler was burned from neglect or mismanagement a few months after it was put in. Had it not been discovered in time, something similar to, if not worse than, the Hartford disaster would have followed. We also know of other buildings in New York whose boilers, although they will be pronounced safe by the ordinary boiler inspector, are such that we are free to say that we would not take offices over them.

With the advance of civilization and the increasing wants of the people, boilers are being multiplied to an enormous extent, and such multiplication must necessarily increase the number of explosions and casualties, unless additional care is taken in the construction, inspection, and management of the boilers. We do not wish to appear to advocate any particular type of boilers; but, in view of the above facts and the dangers which they indicate, we think it is about time that some legislative action was taken to prevent the use of shell boilers within the walls of a building occupied either as a residence, an office building, or an hotel. Water tube or other sectional boilers, whatever disadvantages they may have, have this in their favour, that with them a general explosion can hardly take place. They may rupture a header or burst a tube, and, perhaps, scald or kill a fireman should he be very near at the time; but the destruction of a building would be practically impossible by any accident that is likely to befall them.—*Sanitary Engineer.*

How to Cool a Cellar.—A great mistake, says *Medical Classics*, is sometimes made in ventilating cellars and milk houses. The object of ventilation is to keep the cellars cool and dry, but this object often fails of being accomplished by a common mistake, and instead the cellar is made both warm and damp. A cool place should never be ventilated, unless the air admitted is cooler than the air within, or is at least as cool as that, or a very little warmer. The warmer the air the more moisture it holds in suspension. Necessarily, the cooler the air, the more this moisture is condensed and precipitated. When a cool cellar is aired on a warm day, the entering air being in motion appears cool, but as it fills the cellar, the cooler air with which it becomes mixed chills it, the moisture is condensed, and dew is deposited on the cold walls, and may often be seen running down them in streams. Then the cellar is damp and soon becomes mouldy. To avoid this, the windows should only be opened at night, and late,—the last thing before retiring. There is no need to fear that the night air is unhealthful; it is as pure as the air of midday, and is really drier. The cool air enters the apartment during the night and circulates through it. The windows should be closed before sunrise in the morning, and kept closed and shaded through the day. If the air of the cellar is damp, it may be thoroughly dried by placing in it a peck of fresh lime in an open box. A peck of lime will absorb about seven pounds, or more than three quarts, of water, and in this way a cellar or milk room may soon be dried, even in the hottest weather.

Popular Science Papers

"Blessings on Science! When the Earth seemed old,
When Faith grew doting, and our reason cold,
'Twas she discovered that the world was young,
And taught a language to its lisping tongue."

—*Charles Mackay.*

FASTING MEN AND WOMEN.

The experiments of Chossat offer some very interesting facts relative to the immediate cause of death in starving cases. That cause is loss of heat. When the temperature of the body falls twenty-nine degrees or thirty degrees, Fahr., below the normal point, the starving animal dies. This being so, it is evident that recovery in cases of fasting largely promoted and encouraged by the application external warmth. Animals which had been starved nearly to the point of death were revived first on the application of heat, and then on being carefully fed. Fat, in this view of matters as a heat-producing food, forms, as in the case of the pig, a very important condition favouring the prolongation of life.

In estimating how the body is consumed in cases of starvation, we discover that, taking 40 per cent. as the mean or average, fat loses 93·3 per cent., the blood 75, the muscles 42·3, while the nervous system apparently holds out most strenuously against loss of substance, in that it loses only 1·9 per cent. Death from starvation appears to occur when the body loses two-fifths, or 40 per cent., of its original weight. The testimony of science regarding starvation, its duration and its effects, is thus seen to be tolerably complete, and the experiments of fasting men can scarcely add much that is worth knowing to the general store of information we possess regarding the powers of the body to hold out against a prolonged nutritive siege. The records of enforced starvation are full of cases exceeding in interest those of voluntary fasters. Shipwrecked sailors and entombed miners testify to the power of keeping the body going at low pressure for prolonged periods on water alone.

Foderé gives a case in which some men who had been buried by the fall of a ruin were extricated alive after a fourteen days' confinement in a cold but damp vault. A healthy man, aged sixty-five, was entombed in a coal mine for twenty-three days. He was rescued alive, but died three days after his liberation. His life was unquestionably prolonged by a supply of water to which he had had access for the first ten days of his imprisonment. In the cases of insane persons who refuse to take food, owing to the delusions of which they are the victims, we find instances of remarkable vitality, even after prolonged periods of abstinence,—a result possibly due to the excited state of the nervous system, investing the body with unusual powers of resisting weakness. Dr. Willan's case was that of a religious maniac who was discovered to have lived for sixty days, his only food during that time having been a little orange juice.

Other cases of like nature seem to record starvation-periods, varying from twenty to thirty days, on water alone, as being far from uncommon. Eight men and a boy, enclosed for eight days, were rescued alive through the presence of water; and in a mine at Tynwydd, the miners lived nine days in a chamber among compressed air, without any food save a supply of water. In another instance, a miner was confined for twelve days in a pit. He had plenty of water to drink, but the air of his prison was very impure. He ultimately recovered, and on the

fourth day of his rescue was found to have lost twenty-eight pounds in weight. Reuben Kelsey fasted, in consequence of a religious delusion, for fifty-three days. He died on the fifty-third day of his fast, at the age of twenty-seven; his sole "food" during the fast consisting of about a pint of water per day. Another well-authenticated case gives the duration of a self-imposed fast at fifty-five days; the patient took no food save water for seven weeks and four days.

Some Aino Indians, of Japan, were lost in the snow for twenty-eight days in 1880; one survived, having lived for twenty-five days on snow alone. An idiot lad, mentioned by Dr. Bourneville, fasted on several occasions, his longest fast being one of twenty-eight days, water being his only nourishment. Space will not permit of more than the mere mention of the Welsh fasting girl's case, as one of imposture resulting in the death of the patient. This occurred in 1869. The girl only lived eight days after she was carefully watched. Previous to the supervision it was alleged that she had lived for weeks without food.

Similarly, one Anne Moore, of Tetbury, who was celebrated as a fasting woman early in the present century, was detected in her fraud in 1813. She confessed she had used towels soaked in milk to obtain nourishment; and when her daughter kissed her, food was secretly conveyed from her mouth into the mother's.

Boyish Appetite.—The relation between appetite and digestion is, in general, a fairly definite one. At the same time, it must be allowed that this rule is largely modified by exceptions. Many persons are subject to morbid cravings to eat, which food cannot satisfy; and most of us know something of the appetite of idleness, of habit, or of nervous disturbance,—the latter bearing a suggestive likeness to the desire for stimulants or the fragrant weed, taken to relieve mental depression. Apart from such considerations, however, there are obvious variations in the degree of normal appetite in different individuals and at different periods of life. The man of sedentary habits cannot expect to compete with one who spends a life of movement out of doors. The man and the woman differ; so do the younger and the elder; and, in a notable degree, the boy and the man. The vigorous appetite of boyhood is virtually a synonym of health. A rate of daily consumption which would in most men be gluttony, is in young, growing lads almost too common to attract notice. The explanation is not difficult when we take into account two chief conditions of existence at this age,—the growth going on in every organ and tissue, and a very liberal allowance of active bodily exertion. Under the circumstances, a sparing rule of diet would be unnatural and injurious. There is, of course, a limit even in childhood, which it is trite to say is often and wrongly exceeded. There is no age, however, at which this form of excess is so pardonable. Whatever the surplus of food taken, most of the self-indulgent youngsters have been provided by nature with a power of disposal which may largely be relied upon to correct its consequences. Measures of restriction are most wise when they are used to regulate rather the wholesomeness of food and the times of eating than the absolute quantity consumed. It is at a later stage that we may require to apply strictly the familiar rule that one should eat to live, and not live to eat. A degree of apparent Philistinism in the matter of wholesome food and drink is, in the young, both usual and judicious.—*Lancet.*

Public Health

"Health is the first Wealth."—*Emerson.*

THE PREVENTION OF TYPHOID FEVER.

By R. Harvey Reed, M.D.

Secretary State Sanitary Association, and Health Officer, Mansfield, Ohio.

(Concluded.)

From the proof-sheets of the *Sanitary News*, kindly furnished me by that useful journal, I am enabled to furnish you a report of the Iron Mountain epidemic of typhoid fever, as furnished by that eminent investigator, Professor Victor C. Vaughan, of the Michigan State Board of Health, who in person not only investigated into the causes of this epidemic, but conducted a valuable series of experiments on the cultivation of this germ, which he found grew abundantly in milk, and also meat cultures, and to rapidly multiply when introduced into sterilized water which was kept at a temperature of 115 degs. Fahr.

In speaking of this epidemic, he says: "The result leaves no room for doubt concerning the existence of the specified poison of typhoid fever in Iron Mountain water. Iron Mountain is a village, with a permanent population of 4,800, and 2,000 floating summer population. The dwellings are much crowded. The village is situated in a valley, extending up to the hillsides. About 300 houses have a water-supply from a shaft forty feet deep and free from contamination.

"Those drinking this water are almost wholly exempt from the disease. The remaining portion of the village received its water-supply from wells, sunk from six to twenty feet. No sewers are provided. A ditch running through the village is used as an open sewer, and empties into a small lake, which gave the ice-supply for the village last summer.

"The epidemic occurred early in August, following a severe epidemic of dysentery. Up to December 21, 350 cases had occurred, of which 10 per cent. were fatal.

"One well, sixteen feet deep, showed 2·27 parts of free ammonia per million, and eight grains of chlorine per gallon.

"This well was under a house, and was forty feet from the stable and privy. Thirteen cases of typhoid fever occurred in the house over this well. Some provision for disposal of excrement, slops, and garbage should be made, as it matters not how cold the winter may be, freezing will not kill the germ. The disease was introduced into Iron Mountain by a man from a railroad camp, who died a few days after his arrival there."

You all, no doubt, remember the terrible scourge of typhoid fever that visited Plymouth, Pa., only a few years ago, during which 1,104 persons were stricken down with this foul disease, of whom 114 died, while the actual cost of that epidemic was carefully estimated at $97,120·25, all in hard cash, saying nothing of the loss to that village from 114 deaths, whose yearly income, when in health, amounted to $18,419·52, to all of which is yet to be added the sorrow and suffering that cannot be measured in dollars and cents.

An investigation into the cause of this greatest of modern local epidemics by so eminent an authority as Dr. Benjamin Lee, Secretary of the State Board of Health of Pennsylvania, showed that in a house on

Girard-avenue, in Philadelphia, a blacksmith was stricken down with typhoid fever in September, 1883. After a few days, however, he was removed to the Episcopal Hospital, from which he was discharged on the 13th of the following October.

In the following May or June, 1884, a street-car conductor, who was boarding at the same house on Girard-avenue, was stricken down with the fever, and also taken to the hospital for care and treatment.

In the following July a huckster, boarding at the same house, was attacked with typhoid fever, and sent to the same hospital.

Here are three cases, all boarding at the same house, and all stricken down with typhoid fever, the attacks ranging over a period of about eleven months.

Dr. Lee tells us that from all the information he could gather by personal inspection and diligent enquiry of neighbouring physicians, and other observant citizens, he had not the slightest doubt that, while there were numerous and glaring unsanitary conditions in the vicinity, the real cause of the cases of typhoid fever occurring in this ill-fated house on Girard-avenue was to be found in the grossly defective cesspool, with its foul exhalations, completely shut in from lateral air currents, and pouring through open doors and windows into the kitchen and dining-room, to be inspired by the inmates, or worse still, to be absorbed by the food in course of preparation for the table, and thus brought in contact with the alimentary mucous membrane. "It is proper to state in conclusion," he adds, "that the dangerous character of this particular cesspool cannot be abated or removed by any amount of cleansing or emptying, however frequently performed. Its complete abolition alone can bring safety to the household.

"Into this house with its history of fever and its foul environment, late in December, 1884, came David Jones, fresh from his mountain home, overlooking the vale of Wyoming, to visit his city brother, and spend his Christmas holidays. Forth from this house, early in January, 1885, again he went, but went not as he came. A poisoned blood now coursed through his veins; and shortly after returning to his home he was prostrated with what his physician soon pronounced typhoid fever, and lay on his back for many weeks in his cottage on the banks of a little stream which supplies the reservoir of the town at the foot of the mountain.

"This little town at the foot of the mountain was Plymouth, a mining town of some 8,000 or 9,000 inhabitants, situated on the right bank of the Susquehanna River, three miles below Wilkesbarre. As a large part of the town is upon a side hill, the surface water readily finds its way into the Susquehanna River.

"No system of sewerage and no effort at systematic drainage have ever been introduced, and the borough council seem singularly apathetic in the matter of sanitary reform. The drainage from each house is into cesspools situated in the back yard, or, in some cases, it is even into the streets themselves, which, in parts of the town, have not a proper arrangement of gutters for disposal of this drainage.

"It was found, on further investigation, that the house in which the young man lay with typhoid fever he had contracted at his brother's house in Philadelphia was situated so near the stream supplying the water reservoir at Plymouth that, as soon as the weather permitted a sufficient thaw to allow the frozen accumulations of weeks of dejection from this one case to reach the stream, only a few yards distant, with the conformation of the ground favouring its course to this water-supply, a local epidemic of such magnitude ensued during the following April and May of 1885, and continued till the following September, that it is scarcely paralleled in modern history, and at the same time making this 'one of the most instructive, as well as one of the most terrible, instances which ignorance and negligence have contributed to the records of disease.'"

Professor Vaughan, in speaking of the Iron Mountain epidemic, to which I have already referred in this paper, says: "It is well known that typhoid fever follows dry seasons, and is coincident with low water in wells. There are, on an average, 1,000 deaths and 10,000 cases of sickness from this disease annually in Michigan. These figures can be greatly reduced if people will cease polluting the soil about their houses with slops, garbage, cesspools, and privy-vaults, and will see that their drinking-water is pure beyond all question. When there is any doubt, the water should be boiled, and kept uncontaminated afterward. While the germ most frequently finds its way into the body with the drinking-water, it may be taken in with any food, and even with the air. The earth, air, and water about our homes must be pure, if we are to escape this disease altogether. When cases of typhoid fever occur, all discharges should be thoroughly disinfected."

Since Mansfield has practically ceased the use of water from wells throughout our city, and adopted the use of water supplied by the powerful artesian wells drilled just north of our city, and which have been given the flowery title of "wonderful artificial geysers," a chemical analysis of which was made by Professor C. C. Howard, of Columbus, showing the water to be unusually pure (and more recently pronounced by the Professor, in a private letter to the writer, the purest water that he has examined for any city in the State of Ohio), the prevalence of typhoid fever in our city has greatly diminished. Only one death from this disease has been reported during the summer and fall, and but a few cases have occurred in the city, and they were all in persons who used well water, which is more or less contaminated with organic filth throughout the principal part of our city, certainly demonstrating to an unbiassed mind that typhoid fever is a preventible disease, and can be prevented by the use of pure water.

Before closing this paper, allow me to call your special attention to a few facts:

1. Typhoid fever is caused by the introduction of a specific germ into the alimentary canal.

2. That this specific germ multiplies in the digestive canal, and in turn is thrown off in the stools of the patient.

3. That its vitality is much greater than at first supposed, resisting a variation of temperature ranging from even below the freezing point to 133 degs. Fahr. without being destroyed.

4. That the germ may be communicated from one person to another by water, milk, foods, and air, in the manner illustrated in the cases cited in this paper.

5. To prevent its spread, all the dejecta should either be burned at once (which is preferable) or thoroughly disinfected, by throwing them into a pot of boiling water and thoroughly cooking them; or by using some effective germicide, such as a strong solution of the bichloride of mercury, in sufficient quantities to insure their destruction before they are buried, which should be at a sufficient distance from any neighbouring water-supplies as to insure their freedom from contamination.

6. If the water-supply is of a suspicious character, thoroughly boil it before using, and then place it where

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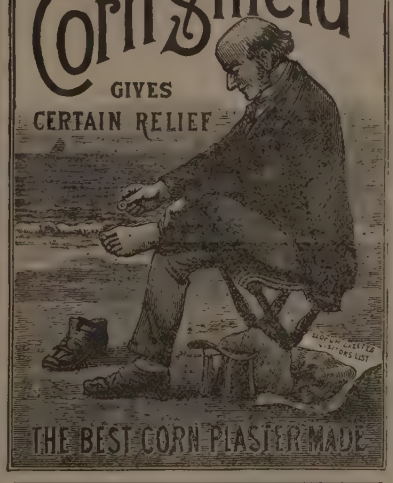

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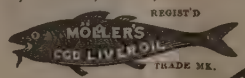

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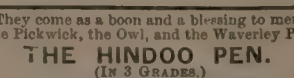

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there is no possibility of its becoming infected. If ice is to be used to cool the drinking water, keep it out of the water, only packing it around the water vessel, but not putting ice into the vessel or not allowing the melted ice in any way to enter your drinking-water, and thus take the chances of its contamination.

By the strict observation and practical application of these few simple hints, I am certain you will soon be led to believe that typhoid fever is a preventible disease.

Stranger (at American hotel bar)—"Best whisky, please." Bar-tender (severely)—"This is a Prohibition town, sir." Stranger—"Ah, excuse me" (moving away). Bar-tender (excitedly)—"Great goodness, stranger, haven't you got sense enough to get sick?"

Saccharin *versus* Sugar.—The leaders of the sugar industry in France are greatly alarmed at the enormous strides which Saccharin is taking in that country, and accordingly the Académie de Médicine has made an onslaught upon it. Dr. Worms, who led the attack, seems to have been actuated by purely commercial considerations, for in his opening remarks he said: "If we succeed in dethroning beet sugar by the substitution of Saccharin in alimentation in any form . . . the universal sugar industry would be greatly disturbed." His contention was that the continued use of Saccharin occasions digestive complications, but if Saccharin had not threatened to become such a formidable rival to sugar, it is more than probable that it would not have found an opponent in Dr. Worms. The *Courrier de Lyon* went so far as to describe the denunciation of Saccharin as a work of flagrant and dishonest jobbery on the part of the French sugar-refiners. Undoubtedly Saccharin is of great value to persons afflicted with diabetes, as it has a savour identical with that of sugar, but with none of its inconveniences. It is 300 times the strength of sugar, and one of the tiny tabloids compressed by Messrs. Burroughs, Wellcome & Co., of Holborn-viaduct, is sufficient to sweeten a cup of tea or coffee. Saccharin is obtained from a substance yielded in the destructive distillation of coal tar, and its harmlessness has been proved by some of the highest authorities.

Water in Fatness.—Dr. Lorenzen, of Erlangen, has been discussing the influence of liquids on obesity. The first experiment was made on himself. For a period of nine years he drank a large quantity of Erlangen beer daily. During four years of the period the daily quantity consumed amounted to ten litres, or two gallons, one and a half pints, or about twenty-two pounds weight; during the remainder of the period the quantity ranged from five to seven litres in addition to one litre of wine. In this way he succeeded in increasing his body weight by seventy-eight pounds, and the usual unpleasantnesses of obesity made their appearance. On shutting off the liquids his weight fell fourteen pounds in seven days. If, however, more water was taken, but without alcohol, the weight increased again. Within five weeks he reduced himself to the extent of twenty-three pounds, the chest measurement diminished by seven cm., and that of the abdomen by thirteen cm., and the difficulties attending respiration disappeared. Similar experiments carried out on colleagues, who were likewise heavy men, had similar results. The disappearance of fat on withholding fluids he endeavours to explain on the hypothesis that the cells whose province it is to decompose albumen, when a large quantity of fluid is taken, now expend part of their energy in the combustion of fat. The fat they consume is replaced by fat from the tissues.

Jottings from the Journals

"Th' ingredients of health and long life are
Great temperance, open air,
Easy labour, little care."—*Sir Philip Sydney.*

Some Terrible Eyes.—Two men possessed eyes whose cold glance seemed to read the schemes of any opponent from their inception to their completion, and whose recollection haunted those on whom they had been turned for years afterwards—as in each case contemporary witnesses have left on record—even when no result of any injurious character followed. One of these was Richelieu. Probably no man ever ruled a kingdom more despotically, yet, on the whole, more successfully, when surrounded from first to last by a multitude of enemies perennially increasing, yet in every case foiled by the Minister's giant intellect. Yet very much of this success was due to the idea that Richelieu knew far more than he actually did of the conspiracies of his foes, and that, therefore, it was useless to plot against him beyond a certain point. Certain it is that when he entered the council-room, and gazed with full, cold, fixed glance on the most astute plotter who was there for examination, the most hardened and ingenious conspirator, for whom the torture-chamber had no terrors, cowered under the silent scrutiny, and ultimately poured forth a full confession, under the idea that great part, if not all, was already known—and did so simply under the mesmeric power of those much-feared eyes of the Cardinal. To have been under the hostile gaze, no word or sign added, of Richelieu, was to secure a memory which for years after gave the possessor of it, however changed the scene and circumstances might be, a thrill of most unpleasant personal fear. And a very analogous case within the memories of our own time can be adduced. It is that of a man who certainly, as far as personal advantages went, was every inch a king. With Herculean frame and inherited beauty of manly features, he had that dignity which, as was noticed by another royal hand, seemed to spring from the sense of unlimited power, which the same observer mentions as particularly characteristic of the large full eyes. It is of those eyes that we have more to add. Not only did they imply a long experience of unlimited sovereignty, but they spoke in tones of terror to all those on whom they were bent in anger. For those who were intimate with the ways of the Russian Court have unanimously recorded how much of influence in the shape of absolute fear there was in the eyes of the Emperor Nicholas. He looked at culprits or suspected culprits with his slow stare of anger, and the unhappy wretches felt, in a very different sense from that in which the phrase was originally used, "under the wand of the enchanter." But, large as were the Czar's eyes—the Romanoff inheritance from their beautiful statuesque German ancestress—there was no brilliant or sparkling glance of ire when they were directed towards an offender. On the contrary, those who have had most experience of them describe them as being dull, cold, almost fish-like in aspect. Stolid as the gaze was, none recorded in history ever produced more terrorizing effects on its objects. In many cases where there was any real ground of offence the person at whom the Czar in his accustomed silent fashion was looking frequently did not wait to be interrogated, sometimes was hardly suspected, but, like victims of Richelieu, as just mentioned, poured forth a full confession under the gaze of the phlegmatic sovereign.

Thus, both in the case of Richelieu and Nicholas, the influence of fear in their eyes was more subjective than objective, and operated by the potency of strong minds over weak ones—not so much from any active aspect of anger at that particular time.—*Gentleman's Magazine.*

Spread of Leprosy.—Cases of leprosy in this country are so very uncommon, that the patients have always acquired the disease in countries where leprosy is endemic, and, what is a very important matter, it will be seen that as yet there is no evidence that the disease spreads by contagion in England. The latter fact by no means contradicts the doctrine that leprosy is a contagious disease. When we consider how highly contagious a disease like syphilis is, and with what comparative, indeed almost entire, impunity, persons suffering from that disease mingle in society with other persons unconscious of the risks they may run from ordinary association with them, we cannot be surprised at the fact that a few lepers may pass amongst us from time to time without conveying the disease to other persons. The conditions of contagion, even in countries where the disease is not rare, are such that many persons in constant contact with lepers escape absolutely free. Again and again has it happened for many years, both in this country and on the Continent, that lepers have been received into large hospitals, that no special precautions have been taken to prevent contagion, and yet medical men and hospital attendants have so far escaped with impunity. In the anæsthetic variety more particularly the risk of contagion would appear to be, if not *nil*, almost infinitesimally small. Although careful examination of the nerve-trunks in anæsthetic leprosy demonstrates the presence of bacilli as the cause of inflammatory thickening and swelling, yet the most careful examination of skin from anæsthetic patches will fail to show a single bacillus. What the risks might be if a large number of badly cared-for lepers, suffering from tubercular leprosy with open sores, were in constant and close contact with persons unprotected by common cleanliness it would be impossible to say; but under the conditions in which the few unhappy victims of that disease live amongst us, we are satisfied that there is no cause whatever for alarm, whilst those whose duties lead them into contact with aggravated cases of tubercular leprosy will naturally take at least the same precautions that they would take if they were attending cases of syphilis. We are satisfied that on the part of the general public there is no reason for fear or anxiety. It will be time enough to sound a note of alarm when there is reason to believe, either from the occurrence of cases spontaneously in this country, or from the increase of the number of lepers who seek a refuge or asylum amongst us, that there is actually a present danger. The case is very different in those countries in which, from conditions that at present we do not understand, the disease spreads with comparative rapidity; in short, where it is endemic. In such countries we believe the facts warrant the institution of all practicable measures to protect the unaffected members of the community from possible contagion. That association with lepers in such countries leads to spread of the disease amongst previously healthy persons seems to us to have been conclusively proved by facts recently published in this and other journals; and we have little doubt that in these countries measures such as those which have had happy results in Norway would tend in time to diminish appreciably the ravages of this terrible scourge.—*British Medical Journal.*

Our Bookshelf

"Reading maketh a full man."—*Bacon.*

A BOOK FOR PLUMBERS.

Plumbing Practice. By. J. Wright Clarke. Illustrated. (London: The Engineering and Building Record. 1888.)

This volume is a reprint of papers contributed to the *Engineering and Building Record*, of New York, from 1883 to 1887. The author is a practical and trained plumber, and his book bears the impress of a thorough acquaintance with the *technique* of household fittings of all kinds. It is well illustrated. In these days of technical education we should say a book like this will prove of high value to plumbing students and to artisans at large. Were its precepts followed out in the practice of fitting up houses, we should hear less of typhoid fever and other preventible disorders being generated by the defective nature of pipes, drains, and closets. We cordially recommend Mr. Clarke's volume to the notice of all interested in the details of plumbing-practice.

EXPERIMENTAL SCIENCE.

Mechanics and Experimental Science. By Edward Aveling, D.Sc. 1. Heat and Light; 2. Magnetism and Electricity. (London: Chapman & Hall. 1889.)

These two volumes are intended as guides to those who are working for the Matriculation Examination of the University of London, and for the examinations of other educational bodies. They appear to us to be excellent manuals of the subjects, and to present to the student who has been otherwise grounded in the work, an admirable digest of what is demanded by Examining Boards.

A PLUMBER'S MANUAL.

Plumbing. A Text-book to the Practice of the Art or Craft of the Plumber. By William P. Buchan. Fifth edition, with 380 Illustrations. (London: Crosby, Lockwood & Sons. 1889.)

Despite a certain awkwardness of style, a plethora of foot-notes, and an evident process of patching and re-patching as new editions were demanded, and as new facts required to be dovetailed into the old materials, Mr. Buchan's book will be found a practical, and, as such, useful manual for members of his trade. He writes often with a good deal of natural bias in favour of his own inventions it is true, but also with clearness, and with a confidence born of practical acquaintance with the details of his trade. If there are many needless references in the index (*vide* "Tullichewan Castle"), there is also much in the book which will repay the perusal of others than plumbers themselves. The principles of drainage, and especially "sectional drainage," which Mr. Buchan advocates, are duly expounded and illustrated; but it is clear that our author fights shy of the question of "disinfection," which, truth to tell, requires a volume to itself, and needs to be placed, as a piece of sanitary work, in the hands of others than plumbers. Mr. Buchan's book, as a practical manual, should be in the hands of all plumbers.

RHEUMATIC GOUT.

The Early Symptoms and the Early Treatment of Osteo-Arthritis, with Special Reference to the Bath Thermal

Waters. By John Kent Spender, M.D. (London: H. K. Lewis, 136, Gower-street, W.C. 1889.)

Dr. Kent Spender has laid the medical profession under a debt of obligation by his little monograph on the treatment of a very painful and distressing form of rheumatism. He lays great stress on the fact that it is amenable to early treatment, and naturally recommends Bath, with its thermal springs, as a suitable place for persons suffering from the disease. "Osteo-arthritis" is in itself a very mysterious ailment, and as such demands further investigation. Dr. Spender's book will largely aid the work of future inquirers.

B. Bradshaw's Dictionary of Mineral Waters, Climatic Health Resorts, Sea Baths, &c. (Trübner & Co.), is a handy volume giving the main features of the health-resorts of the world.

The Therapeutics of Kronenquelle Water, by Dr. Prosser James (Trübner & Co.), is a small volume giving a clear account of this notable water, which has acquired a wide fame in the cure of gouty diseases.

Babyhood for April, as usual, contains admirably-written papers suitable for the education of mothers in all that pertains to the physiological regulation of infant life. *Public Health,* edited by Mr. Wynter Blyth, is prospering as a medium for medical officers of health and sanitary inspectors. *Illustrations,* Mr. Heath's magazine for April, has a decidedly Scottish flavour about it. The articles on the public schools, however, read too much like expanded and illustrated prospectuses, and as such, are scarcely worthy of a high-class magazine.

Medical Treatment of Sleeplessness.—The most recent remedy brought forward for sleeplessness is *Sulfonal.* This substance is the product of oxidation of a compound, resulting from the action of acetone or æthyl-mercaptan. It occurs in the form of large, flat, colourless crystals, which are tasteless and devoid of smell. It is soluble in eighteen to twenty parts of boiling water, or one to one hundred parts of tepid water, but more readily in alcohol and alcohol mixed with ether. Its composition is not affected by acids or alkalies. Dose to begin with, fifteen grains; commonly takes effect in from half an hour to two hours, and is sufficient to insure several hours of refreshing sleep. But if insufficient, the dose may be increased to sixty grains. The best time to administer it is in the late afternoon or early evening hours. It is said to be absolutely free from the disagreeable after-effects common to other hypnotics.—*Edmund Charles Went, M.D., in "Medical Record."*

Musical Intelligence.—According to a contemporary, a lady from the rural districts took her daughter to town, and after consulting a number of professors respecting her musical abilities, returned home very much discouraged, and reported to her husband the result of her expedition as follows: "The first professor said that Almira sings too much with her borax. If she keeps on, she will get digestion on the lungs. He said she ought to try the abominable breathing and practice solfudgery. Then the next teacher told me that she ought to sing with her diagram, and not smother her voice in the sarcophagus. Then the next, he poked a looking-glass down her throat, and said that the phalanx was too small, and the typhoid bone and the polyglottis were in a bad way; and I never knew that Almira had so many things down her throat, and I'm afraid to let her sing any more, for fear it will kill the poor girl."

IMPORTANT ANNOUNCEMENT.

COMMENCEMENT OF A NEW VOLUME ON FRIDAY, APRIL 5th.

BONUSES TO SUBSCRIBERS TO "HEALTH."

Health, as our readers are aware, may be obtained of all Booksellers and Newsagents, and at the Railway Bookstalls, on the day of publication. It may also be ordered from the Publisher, 2, Paternoster-square, London, E.C., who will send the journal, post free, for a year, on receipt of postal orders for 10s. 10d.

As many of our readers who live in remote districts prefer to obtain Health from the Publisher direct, and as we are desirous of increasing the already large number of subscribers who give us a yearly order for the journal, we offer the following Free Gifts and Bonuses to all who subscribe to Health for one year or longer:—

(1.) To each Subscriber who remits 10s. 10d. to the Publisher, entitling him (or her) to receive one copy of Health, post free, for one year, we shall present a copy of Dr. Andrew Wilson's work, entitled "A Manual of Health Science" (Longmans & Co.), value 2s. 6d.

(2.) To each subscriber who remits 21s. 8d., entitling him or her to receive two copies of Health weekly, post free, for one year (or one copy for two years), we will present Dr. Richardson's "Ministry of Health" (Chatto & Windus), value 6s. The copies of Health so ordered may be posted to separate addresses.

(3.) To each person who subscribes 32s. 6d., for three copies of Health, post free, weekly, for one year, we will present the volume by Dr. Richardson mentioned above, and also the handsome, illustrated book entitled, 'Studies in Life and Sense," by Dr. Andrew Wilson (Chatto & Windus), value 6s.—being a free gift of the total value of 12s.

The bonus last mentioned will also be presented to anyone who succeeds in obtaining three yearly subscribers to Health, and who remits to the Publisher the sum of 32s. 6d., together with the names and addresses of the persons to whom the copies are to be posted each week.

As the literary gifts above-mentioned constitute books containing solid and reliable information regarding health and other matters of popular scientific interest, it will be seen that the above scheme, while intended to increase our already large circulation, also offers distinct advantages to new subscribers who guarantee by their subscriptions a year's support to this journal. All communications regarding subscriptions and other purely business details connected with Health should be addressed directly to the Publisher, 2, Paternoster-square, London, E.C., and *not to the Editor.*

A Costly Drug.—Ginseng is a root obtained in Manchuria, and much prized by the Chinese as a cure for most of the ills to which human flesh is heir. Its supposed efficacy is, perhaps, partly due to its great scarcity and consequent high price. A recent issue of the *Pekin Gazette* contains a report from the Military Governor of Kirin, in Manchuria, stating that he has forwarded for the use of the Emperor, by special messenger, eight large and sixteen small ginseng, weighing altogether 9·4 ounces. The total cost is given at 1,560 taels, or about £400, being at the rate of about £45 an ounce.

"ELECTRICITY IS LIFE."
(TRADE MARK.)

PULVERMACHER'S
WORLD-FAMED
GALVANIC BELTS,

FOR the CURE of NERVOUS DISEASES,
HAVE RECEIVED TESTIMONIALS from
THREE PHYSICIANS to
HER MAJESTY the QUEEN,
THE ACADÉMIE DE MÉDECINE of Paris and
FORTY MEMBERS of the
ROYAL COLLEGE of PHYSICIANS of LONDON.

RECENT TESTIMONIALS.

GALVANISM *v.* RHEUMATISM OF THIRTY YEARS' STANDING.

Quarry Calne, Wilts, March 29th, 1889.

Dear Sir,—Some years ago my husband purchased one of your Galvanic Belts for chronic rheumatism, which quite cured him. The case was a most severe one of thirty years' standing, and my husband was almost a cripple, and could not lift his hands to his head. Before he got your Belt he could not rest day or night, but now he is quite cured, and is never troubled with the rheumatism in the least.—Yours very truly, (Mrs.) S. WESTON.

Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS DEBILITY AND MENTAL DEPRESSION.

53, Norton-street, Grantham, March 25th, 1889.

Dear Sir,—You will remember that I had one of your combined Bands a short time since, for nervous debility and mental depression. I am very thankful to say that I have received so much benefit from it that I am now in my ordinary state of health, and shall discontinue wearing the appliance on hearing from you.—Yours very truly, E. SMITH.

Mr. J. L. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.

St. Stephen's Coombe, Cornwall, 22nd March, 1889.

Dear Sir,—I have very great pleasure in stating that since I began to wear your Galvanic Belt my general health has entirely improved, and I am conscious of more strength and energy to undertake my duties. I feel very thankful for this change, and you are welcome to use my name as one that has derived immense benefit from your treatment.—Yours truly, JABEZ BONE.

Mr. Pulvermacher, 194, Regent-street, W.

GALVANISM *v.* SLEEPLESSNESS AND INDIGESTION.

25, Wedmore-gardens, Upper Holloway, N., March 21st, 1889.

Gentlemen,—I am very pleased to testify to the great benefit I have received from wearing your Combined Band. I had been suffering for a considerable time from sleeplessness, severe headaches, dyspepsia, &c., and neither medicine nor cessation from business seemed to effect any improvement. I called upon you as a last resource in June of last year, and procured one of your Galvanic Bands, and in a few days I felt relief. I began to sleep better, and the headaches gradually left me, and I have enjoyed better health ever since, and have been able to keep at my business, which I felt totally unfitted for before. I should certainly recommend any one suffering as I did to try one, which I am very thankful I did.—Yours very truly, GEORGE J. HALEY.

Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* SCIATICA AND BLOOD POISONING.

246, High-street, Perth, N.B., March 19th, 1889.

Gentlemen,—This is to certify that I received one of your special Combined Bands for a friend of mine who was suffering from sciatica and blood poisoning, and will you kindly allow me to add my testimony to the many thousands you have already received? Previous to my friend getting your Band he had been very ill for fully twelve months, and attended by various doctors, some of the ablest in Scotland; everything was tried that could be thought upon, and he was given up as incurable. As a last resource we sent for your Galvanic Appliance, which in a short time produced marvellous results, and speedily brought the desired relief, and I can now inform you that my friend is again at business after 2½ years of suffering. This is a wonder to many, and no reason or explanation can be given regarding this marvellous restoration excepting your treatment, as all drugs, doctors, &c., were given up before we put the Belt on.—I am, yours faithfully, J. G. WILSON.

Messrs. J. L. Pulvermacher & Co., 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION and DEBILITY.

East Challow, Wantage, March 16th, 1889.

Dear Sir,—I am writing to tell you of the great benefit I have derived from your Galvanic Combined Band for nervous exhaustion and debility. It has proved an immense boon to me.—Yours faithfully, (Miss) A. BARNET.

J. L. Pulvermacher, Esq., 194, Regent-street, W.

GALVANISM *v.* NERVOUS EXHAUSTION.

The distressing symptoms of Nervous Exhaustion and Debility are speedily removed by means of PULVERMACHER'S world-famed GALVANIC BELTS, which are so arranged as to convey a powerful electric current direct to the affected parts, gradually stimulating and strengthening all the nerves and muscles, and speedily arresting all symptoms of waste and decay.

ADVICE PERSONALLY or by LETTER, free of charge.

FOR FURTHER TESTIMONIALS, both Medical and Private, see new Pamphlet, "GALVANISM: NATURE'S CHIEF RESTORER OF IMPAIRED VITAL ENERGY," post free on application to

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"Conference [maketh] a ready man."—*Bacon.*

NOTICES TO CORRESPONDENTS.

All Communications for the Editorial Department (including Books for Review, Specimens of Sanitary Appliances, &c.), to be addressed to "THE EDITOR OF HEALTH," 2, PATERNOSTER-SQUARE, LONDON, E.C. *Those intended for the Publishing Office to be sent to* MR. A. P. WATT, THE PUBLISHER, *at the same address.*

RULES FOR CORRESPONDENTS.

OWING to the mass of letters which reaches us each week, we respectfully direct the attention of Correspondents, desiring replies in the LETTER-BOX DEPARTMENT of HEALTH, to the following rules:—

1. All questions are answered free of charge in the columns of HEALTH. A limited space only, is available for the insertion of replies each week.
2. All letters must be legibly addressed to "The Editor of HEALTH, 2, Paternoster-square, London, E.C.," *and to no other address.*
3. Questions to which answers are desired by post, are so replied to solely at the Editor's discretion. If no answer is sent by post, the query will be replied to in the "Letter-Box" columns of HEALTH. A stamped addressed envelope must accompany all queries to which a private reply is desired.
4. Addresses of physicians and surgeons will, as heretofore, be forwarded FREE to Correspondents on their enclosing a stamped addressed envelope for reply.
5. Correspondents are requested to write on one side of the paper only, and to make their inquiries as brief as may be consistent with clearness.
6. From the necessity of sending HEALTH to press early in the week, no Correspondent can be replied to in the "Letter-Box" columns in the same week in which the inquiry is received. Replies crushed out of any issue will be found in the succeeding number.
7. No Post Cards must be used in sending queries. Violation of this rule deprives the sender of the privilege of a reply.

QUERIES AND ANSWERS.

REPLIES: GENERAL, SANITARY, AND MEDICAL.

[Readers of HEALTH will kindly note that when back numbers of the journal are desired, the letters containing such requests and stamps for the numbers should be addressed to the PUBLISHER of HEALTH, 2, Paternoster-square, London, E.C., and *not to the Editor.*]

GEORGE PLAYFAIR.—Apply to Mr. Pulvermacher, 194, Regent-street, London, W., and he will advise you fully.

SPERMTEH.—You are simply pandering to a very morbid taste, and we cannot spare further space to answer your ridiculous queries. Don't credit your neighbours with evil thoughts or deeds, and you will be able then to take a more healthy view of life for yourself.

T. C. BRUNTON.—You require more open-air exercise, and you must also reform your diet. You cannot cure constipation in a day, or by aperients. You must persevere with the diet-rules (and adhere strictly to them) given in advice to "C. Piper" in the present number. Use the Cascara as an aid to diet. Give up tea and coffee altogether, and eat little flesh-meat. Try fish instead now and then. A tepid bath every morning will assist your cure. If not bettered, write again.

A. HARRIS.—What you name would be an offence against the law, and no medical man would assist you in any such proceeding.

ROB.—Follow the advice given above to "T. C. Brunton," and let us hear how you are after, say, three weeks' fair trial of the rules laid down for diet, &c.

POTS.—1. Your troubles arise from your digestive weakness, and we advise you to try the advice laid down above to "T. C. Brun-

ton." You may, in fact, cure yourself entirely by a radical change in your diet. 2. The inhaler we recommend is Burroughs' Chloride of Ammonium one. Any druggist will procure it for you; it is made by Burroughs, Wellcome & Co., Snow-hill Buildings, London, E.C. It is an admirable appliance for curing nasal catarrh.

F. M.—1. The phlegm coughed up from the lungs of dwellers in cities is always dark-coloured, on account of the black particles inhaled into the lungs from the air. You only suffer from a slight cold. Use the cure recommended to "Querist" in the present number. 2. We should not advise you to swim until the warm weather comes. What you name indicates insufficient reaction.

Bessie S.—1. Try Bayley's cure; it is an admirable one. 2. The Medical Battery Co., 52, Oxford-street, W., will advise you. 3. Pitkeathly Water with Lithia.

Awaiting.—The book you read is the production of a well-known Liverpool quack firm. Have nothing whatever to do with this firm unless you wished to be robbed of money and health. Read the pamphlet, "A Lecture to Young Men" (post free, for 1s. 1d., from Mr. Renshaw, 356, Strand, London, W.C.), and follow out the rules for diet, &c., given in its pages, and you will get quite well.

Edinbro'.—Read the pamphlet above recommended to "Awaiting," and you will find full information therein.

Carfax.—Himrod's Asthma Cure is used by inhaling the vapour arising from the substance when burned. Marshall's Cubeb Cigarettes are used by bringing the smoke down the nostrils.

C. Piper.—Try Cascara Cordial in twenty-drop doses, taken in water, once or twice daily, between meals; and follow up this remedy and render its effects permanent by the use of a diet largely vegetable in its nature—such as Scott's Oat Flour, stewed fruits, prunes and apples, ordinary vegetables, &c. Take Dahl's Cakes also as part of the treatment.

A. Ponton.—Do not use any hard combs or brushes, but wash the hair once a week only with Bayley's Spermaceti Soap and tepid water, and rub into the scalp a little glycerine of borax. Bay rum is also an excellent cooling and cleansing preparation.

G. E. A.—Wash the parts daily with tepid water and Coal Tar Soap, and thereafter rub a little mercurial or blue ointment on the affected parts.

Olden.—Take twenty drops of Fer Bravais after your meals thrice daily in water, and wash the affected parts night and morning with Bayley's Soap and warm water.

Atoxa.—Try the effect of taking fifteen grains citrate of potash in a tumbler of water, between meals, twice daily; attend thoroughly to your digestion, and avoid constipation.

C. Reid.—In both cases you will only be safe and adopting a reliable method of cure by consulting a specialist in skin-diseases. If desired, we can send you address of such on receipt of stamped addressed envelope.

Labor.—Try the following lotion:—Bay rum, two ounces; glycerine, two ounces; tincture of cantharides, one drachm; oil of bergamot, half a drachm; sulphate of quinine, ten grains; water, four ounces. This lotion is to be used every morning, and to be rubbed into the roots of the hair, all other oils and pomades being avoided. Use a soft brush only, and wash the hair once in a week or ten days, at night, with Bayley's Spermaceti Soap (19, Cockspur-street, Pall-mall, London, S.W.), and tepid water.

Alex. Rae.—Messrs. Pulvermacher, 194, Regent-street, London, W., will advise you regarding their belts, which you may purchase with all safety.

Clutha.—There is no such cure as that you indicate. If you require a truss that will fit you, and can be worn without pain or inconvenience, apply to the Medical Battery Company, 52, Oxford-street, London, W.

A. B.—Try a dose of Lamplough's Pyretic Saline on rising in the morning, and follow out the other food-directions already given you. You will get quite well in time. Take a cold sponge bath each morning. and use brisk friction thereafter.

C. O. R.—A simple dusting powder, adapted to give relief when applied to chafed parts, is composed of oxide of zinc, one part; powdered starch, two parts.

Adele.—Avoid chills, and take the following:—Chloride of ammonium, two drachms; spirits of chloroform, one drachm; simple syrup, three drachms; water, to make up six ounces. A tablespoonful to be taken in water every four hours.

Pussy.—We advise you to consult the French Hygienic Society, 6, Conduit-street, London, W., and use their Pomade Tricophile for the cure of scurf.

Nepa.—La Bourboule is the mineral water which contains arsenic (see advertisement in our pages).

A. G. P.—Apply to Messrs. Burroughs, Wellcome & Co. (who are the makers), Snow-hill-buildings, London, E.C. Your druggist should be able to procure the medicine for you. It should, however, be used at first, at any rate, under a physician's direction.

M. B.—Avoid constipation, and drink Vichy Water occasionally, and, above all, keep your mind from dwelling on your fancied disease, or you will speedily fall into the hands of quacks. Scott's Oat Flour should be used by you in preference to tea and coffee.

J. Tod.—Wash the affected parts with Vinolia Soap only till you are well, and apply the following paste, night and morning:—Resorcin, one drachm; lanoline, vaseline, zinc oxide, and powdered starch, of each, two drachms. Mix, to form a paste.

Querist.—What you name probably arises from the bronchitis you have acquired. You should first of all begin your cure by clothing warmly in the woollen underclothing made by Mr. Forsyth, of Glasgow. You must also, after your meals each day, take a dessertspoonful of Scott's Pure Cod Oil Emulsion; and each evening, at bedtime, inhale the vapour arising from a pint of very hot water to which you have added a teaspoonful of Friar's Balsam. Let us hear how these measures benefit you. If you wish for an opinion regarding the state of your chest generally, you will, of course, have to consult a physician.

Relaxed Throat.—We recommend you to follow out the treatment ordered above to "Querist," and, in addition, use the Soden Mineral Pastilles advertised in our pages. If not bettered, write again.

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LONDON OFFICE: 61, MARK-LANE, E.C.

Telegraphic Address—"LAWINSKI, LONDON."

Modern Athenian.—You are probably correct in ascribing your pain to the habit of standing for long periods. You must endeavour to correct this habit, and to afford the limb the necessary amount of rest. When in bed, or sitting, rest the foot on a pillow or stool, so as to elevate it slightly. Unless there are enlarged veins to be seen, you need not fear varicose veins; only, they are apt to arise from standing for lengthened periods. In the event of the veins becoming enlarged, you should at once be fitted with a properly adjusted elastic stocking.

Keel.—We have no faith in the person you name. If he denies the efficacy of the remedies you mention, that fact shows that he must know nothing whatever about the hair and its troubles. Doubtless he desires to sell his own nostrums, which quite explains why he disapproves of the advice of other and better qualified people. For your hair-weakness follow the advice given to "C. Eagle," in the last number of Health. As regards the other matter, you may rest assured the swelling is not due to cancer, but consists merely of an enlarged gland. Paint the swelling with tincture of iodine till the skin becomes tender, applying the iodine night and morning. Internally, take fifteen drops of Fer Bravais after your food, in water, thrice daily.

F. P. S. A.—You take excess of tea and coffee. Give up both, and use Grant's Oat Flour in their place. Oatmeal itself may be too irritating for you.

E. Sellars.—For the relief of the itching in your case try the following:—Carbolate of soda, a drachm and a half; glycerine, twenty-five drachms; eau de Cologne, nineteen drachms; and water, seventy-five drachms. Mix, and apply to the parts as a lotion thrice daily. Wash the parts with Vinolia Soap only.

Omega.—1. There is no amount of fat attached to tripe; so you may keep your mind quite easy on the matter. It seems to us you might avoid so much anxiety about your food and digestion if you were content to make cautious experiments, and find out what agrees with you. No advice can possibly benefit you equal to such a proceeding. 2. Because it is milder spirit than brandy. 3. A dessertspoonful or more.

Asterisk.—All such modes of treatment are barbarous and cruel. Send us addressed and stamped envelope, and we will forward address of an Edinburgh surgeon.

B. Peters.—1. You should apply to Mr. Pulvermacher, 194, Regent-street, London, W. He will advise you fully on the subject. 2. The man who wrote you is a quack.

C. P. G. — Try Messrs. Brand's Beef Bouillon or their Essence of Beef. There are no preparations at all equal to these. The Essence of Beef may in your case be taken cold, in teaspoonfuls, from the tin.

Alter Ego.—No operation is necessary. You only need a proper truss. Apply to the Medical Battery Co., 52, Oxford-street, London, W.

A. Lambert.—1. What you complain of is due to the old-fashioned and defective closet you have in use. Fit up one of Twyford's "Unitas" type, and all your nuisances will disappear. 2. Vinolia should be used for the child's head, and the Vinolia Soap is to be used for washing it. Apply to Roberts & Co., 76, New Bond-street, London, W., who sell Vinolia, or try your own chemist.

L. Cooke.—1. Mellin's Food, certainly. 2. Your teeth are evidently at fault. Use Bunter's Puriline Tooth Polish and the Puriline Mouth Wash regularly, and brush the teeth night and morning. 3. Take Pitkeathly Water regularly, and give up all alcohol for a time.

C. Jones.—1. The locality is, perhaps, too relaxing for the case you name. Try Eastbourne in preference, or Hastings. 2. In your case Horsford's Acid Phosphate will do good. Use as directed on the bottle.

New Disciple of Health. — Simply apply a little of the lotion; don't rub it too hard on the skin, and dilute it with water, if too strong.

Rufus Swallow.—Read the pamphlet recommended to "Awaiting" in the present number, and follow out its directions as to diet, &c., and you will get quite well. You suffer from constipation simply, and you will cure that by the use of Cascara and diet as the pamphlet directs.

G. Carruthers.—1. An ordinary case of rupture need be no barrier. All you require is to see that you do not over-exert yourself. Possibly a life assurance society might regard a rupture as slightly against you, but it is not regarded (in a simple case) as a great objection. 2. No tonic should be taken unless there is need for it. If you feel you require bracing up, try the tonic named; it is excellent; but you should regulate your diet closely, according to the rules given in the pamphlet, and take a tepid bath each morning. This last will tone up your system admirably.

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